

AMENDMENT OF THE CLAIMS:

Please cancel claims 56-60 without prejudice or disclaimer, and amend Claims 72-77 and 84-89 as follows:

Claims 1-71 (canceled)

Claim 72 (currently amended): A laser beam producing system comprises:

~~a laser beam source, such as a visible laser diode (VLD),~~ for producing a laser beam from its junction;

a collimating lens (L1) for collimating the laser beam as it is transmitted through collimating lens L1 and through the system in an S-incident manner;

a fixed spatial-frequency diffractive optical element (DOE) denotable by D1;

a fixed spatial-frequency diffractive optical element (DOE) denotable by D2; and

a focusing lens (L2) disposed between DOE D1 and DOE D2 and adjustably translatable along its optical axis for focusing the output laser beam to some point in space.

Claim 73 (previously presented): The laser beam producing system of claim 72, wherein said collimating lens (L1) is realized by an optical element selected from the group consisting of a refractive lens, a HOE, a CGH, other type of DOE, a grin lens, and one or more zone plate(s).

Claim 74 (currently amended): The laser beam producing system of claim 72, wherein each said DOE is realized by an optical element selected from the group consisting of a HOE, a computer-generated hologram (CGHs), and a surface-relief hologram, ~~and other diffractive optical element~~.

Claim 75 (currently amended): The laser beam producing system of claim 72, wherein a total beam-shaping factor of the laser beam producing system is defined by $M=M_1M_2$, wherein M_1 is the magnification factor of said DOE D₁, and M₂ is the magnification factor of said DOE D₂, the and wherein said total beam-shaping factor ($M=M_1M_2$) for the laser beam ~~modifying subsystem producing system~~ is less than unity (1), that is $M_1 \cdot M_2 < 1$, and thus the laser beam leaving ~~the collimating lens (L1)~~ said DOE D₁ and said DOE D₂ is compressed in one

dimension.

Claim 76 (currently amended): The laser beam producing system of claim 72, wherein each of said DOEs is realized by an optical element selected from the group consisting of a HOE, a CGH, and a surface-relief hologram, and other diffractive optical element.

Claim 77 (previously presented): The laser beam producing system of claim 72, wherein said focusing lens (L2) is realized by an optical element selected from the group consisting of a refractive lens, holographic optical element (HOE), diffractive optical element (DOE), grin lens, and zone plate(s).

Claims 78-83 (canceled)

Claim 84 (currently amended): A laser beam producing system comprises:

~~a laser beam source, such as a visible laser diode (VLD), for producing a laser beam from its junction;~~

~~a collimating lens (L1) for collimating the laser beam as it is transmitted through collimating lens L1 and through the system in a P-incident manner;~~

~~a fixed spatial-frequency diffractive optical element (DOE) denotable by D1;~~

~~a fixed spatial-frequency diffractive optical element (DOE) denotable by D2; and~~

~~a focusing lens (L2) disposed between DOE D1 and DOE D2 and adjustably translatable along its optical axis during the alignment stage of the system assembly process for focusing the output laser beam to some point in space.~~

Claim 85 (previously presented): The laser beam producing system of claim 84, wherein said collimating lens (L1) is realized by an optical element selected from the group consisting of a refractive lens, a HOE, a CGH, other type of DOE, a grin lens, and one or more zone plate(s).

Claim 86 (currently amended): The laser beam producing system of claim 84, wherein each said DOE is realized by an optical element selected from the group consisting of a HOE, a computer-generated hologram (CGHs), and a surface-relief hologram, and other diffractive

optical element.

Claim 87 (currently amended); The laser beam producing system of claim 84, wherein each of said DOEs is realized by an optical element selected from the group consisting of a HOE, a CGH, and a surface-relief hologram, and other diffractive optical element.

Claim 88 (currently amended): The laser beam producing system of claim 84, wherein a total beam-shaping factor for the laser beam producing system is defined by $M=M_1M_2$, wherein M_1 is the magnification factor of said DOE D₁, and M₂ is the magnification factor of said DOE D₂, and wherein the total beam-shaping factor ($M=M_1M_2$) for the laser beam modifying subsystem producing system is greater than unity (1), that is $M_1*M_2>1$, and thus the laser beam leaving the collimating lens (L1) said DOE D₁ and said DOE D₂ is expanded in one dimension.

Claim 89 (currently amended): The laser beam producing system of claim 84, wherein said focusing lens (L2) is realized by an optical element selected from the group consisting of a refractive lens, holographic optical element (HOE), diffractive optical element (DOE), grin lens, and zone plate(s) or the like.

Claims 90-113 (cancelled)